



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,266	12/12/2003	Susumu Yoshino	118036	8675
25944	7590	07/14/2005		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER GLEITZ, RYAN M	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,266

Applicant(s)

YOSHINO ET AL. 

Examiner

Ryan Gleitz

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/21/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

The figure is objected to because it is numbered. Where only a single view is used in an application to illustrate the claimed invention, it must not be numbered and the abbreviation "FIG." must not appear. 37 CFR 1.184(u)(1).

The drawing is objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the latent image holding member, receiving member, recycled toner, supply toner, toner band, blade, fixing member, shape of the toner, carrier, resin layer, and the apparatus that performs the image forming method must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

Art Unit: 2852

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5-7, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al. (US 5,906,906).

Inoue et al. disclose an image forming method including a charging step of charging a surface by charging member (2) of a latent image holding member (1); a latent image forming step of forming an electrostatic latent image by optical system (3) on the surface of the latent image holding member (1); a developing step of forming a toner image by developing roller (10) on the surface of the latent image holding member (1) by using a developer; a transfer step of transferring by charging device (5) the toner image formed on the surface of the latent image holding member (1) to a surface of a receiving member, sheet (8); and a blade (6) that performs a cleaning step of recovering remaining toner on the surface of the latent image holding member (1) as recycled toner.

Art Unit: 2852

The recycled toner is supplied to the developer as a part of supply toner. The virgin toner was mixed with the recovered toner in an amount of 100 to 300 parts by weight per 100 parts by weight of the recovered toner (col. 10, lines 50-3). This reads on a ratio of the recycled toner to a total amount of the supply toner supplied to the developer is 15% or 20% by weight or greater.

Regarding claim 6, a fixing step of fixing the toner image transferred to the surface of the receiving member with heat by fixing member (7), wherein a releasing liquid is not supplied to a surface of a fixing member in the fixing step.

Regarding claim 10, the toner contains a releasing agent (col. 6, lines 56-7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-4, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 5,906,906) in view of Shigesaki et al. (JP 2002-311775).

Inoue et al. disclose the image forming method above but are silent on a step of forming a toner band.

However, Shigesaki et al. disclose a toner band forming step of forming a toner band on the surface of the latent image holding member. Abstract, lines 10-11.

Regarding claim 3, the toner band is formed once per 50 printed sheets of an A4 size image [0054], which reads on the claimed range of 10 to 200.

Regarding claim 4, example 2, paragraph [0097] gives a halftone image of 60%, which reads on an image density of from 30% to 100%, and a 3 mm width, which reads on the claimed range of 0.5 to 20 mm.

Regarding claims 8 and 9, the toner has a shape factor SF1 of from 100 to 135, the SF1 being calculated according to the claimed equation wherein ML represents a maximum length of a toner particle, and A represents a projected area of the toner particle. Abstract, lines 13-18. A shape factor of 100 to 135 reads on the claimed ranges of 100 to 140 and 110 to 135 with sufficient specificity.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming method of Inoue et al. with the toner band forming step of Shigesaki et al. to control the amount of toner by which excellent cleaning performance is obtained and the lives of an image carrier and a process cartridge are prolonged. See abstract, lines 3-6, 14.

Claims 11, 12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 5,906,906) in view of Yanagida et al. (JP 10-073996).

Inuoue et al. disclose the image forming method above, wherein the developer is a two-component developer (col. 3, lines 23-4), but does not disclose details of the carrier or the developing contrast potential.

However, Yanagida et al. disclose a method for forming an image including a two-component developer comprising a carrier and a toner, and the toner is a non-magnetic toner. See [0003]-[0004].

Regarding claims 12 and 14, the carrier has a resin layer on a surface thereof. See [0012].

Regarding claim 15, the resin coated carrier contains a conductive material dispersed in the resin layer. Abstract, line 9.

Regarding claim 16, the resin layer has a thickness of 0.5 to 3.0 microns. [0021]. This reads on an average thickness of from 0.1 to 10 microns.

Regarding claim 17, a carrier the with a volume resistivity of 10^9 ohm cm, and a development curve represented by a contrast potential with an electric field strength of 10^4 V/cm. Abstract, lines 11-14.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming method of Inuoue et al. with the carrier and contrast potential taught by Yanagida et al. to stabilize an amount of development toner and prevent a carrier-over phenomenon. Abstract, lines 1-2.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 5,906,906) in view of Yoshino et al. (US 2002/0076635).

Inuoue et al. disclose the image forming method above, but does not disclose a powder on the surface of the toner.

However, Yoshino et al. disclose a toner on which external additives are added such as inorganic powder, resin powder, and the like, are added singly or in combination thereof to the surfaces of the toner particles for improving long-term preservability, fluidity, developing property, and transferring property of the toner. [0067].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming apparatus of Inoue et al. with the toner taught by Yoshino et al. to improve the improving long-term preservability, fluidity, developing property, and transferring property of the toner. [0067].

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 5,906,906) in view of Yamazaki et al. (JP 2001-042556).

Inoue et al. disclose the image forming method above, but does not disclose a surface layer of the image holding member with a crosslinked resin having a siloxane bond.

However, Yamazaki et al. disclose a photoreceptor with a surface layer having a crosslinked resin having a siloxane bond to prevent deterioration of the photoreceptor. Abstract, lines 1-5, 9-13.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image holding member of Inoue et al. with the surface layer taught by Yamazaki et al. to prevent deterioration of the surface of an electrophotographic photoreceptor and the peeling of a film from the surface. Abstract, lines 1-5.

Art Unit: 2852

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Gleitz whose telephone number is (571) 272-2134. The examiner can normally be reached on Monday-Friday between 9:00AM and 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


rg



**Arthur T. Grimley
Supervisory Patent Examiner
Technology Center 2800**